

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): David Griffith

Title: ACTUARY MANIPUTABLE RATING MODEL AND SYSTEM

Application No.: 09/775,019

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**APPEAL BRIEF (37 C.F.R. § 41.37)**

This brief is in furtherance of the Notice of Appeal, filed on July 3, 2006 (and received by the Office July 10, 2006, which sets an extended deadline of October 10, 2006 for filing of this appeal brief. Fee required under §41.20(b)(2) and any applicable extension fees are provided with the accompanying electronic or printed transmittal.

**REAL PARTY IN INTEREST**

The real party in interest in this appeal is Trilogy Development Group, Inc., as evidenced by the assignment recorded at Reel 011519 Frame 0313.

**RELATED APPEALS AND INTERFERENCES**

Appellant has no knowledge of any related appeals or interferences.

**STATUS OF CLAIMS**

Claims 1-24 have been entered. Of those, claims 3-15 and 19-24 are rejected, claims 1, 2 and 16-18 were withdrawn based on a restriction, and claims 22-23 are canceled by amendment

filed herewith. No claims are allowed or objected to. **Claims 3-15 and 19-21 and 24 are now presented herein on appeal** and are reproduced in the Appendix attached hereto.

### **STATUS OF AMENDMENTS**

*Amendment after Appeal:* Applicants file herewith an amendment after appeal canceling claims 22-23. The amendment comports with 37 C.F.R. § 41.33(b) and entry is respectfully requested.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

The invention, as presently claimed, relates generally to a set of techniques, systems, encodings and functional sequences associated with transformation of an insurance calculation base defined in a form suitable for manipulation by business users, e.g., actuaries, underwriters product managers, etc., to an executable form suitable for use in rating, pricing or otherwise evaluating an insurance product as against a profile of an insured (or potential insured), a population or risk pool. By allowing business users to define, review and revise rating models using familiar methodologies and presentation constructs (such as factor tables) and by providing an automated facility for transformation of the rating model into an efficient executable form, systems and techniques in accordance with some embodiments of the present invention facilitate rapid deployment and update of insurance product offerings.

#### **Independent Claim 10**

Turning to the claims, independent **claim 10** is directed to a method of preparing an executable representation of a rating model. *See generally*, Applicant's Specification, p. 4, line 25 – p. 7, line 2 for an overview of an exemplary computer implemented method for transforming a calculation base defined in actuary-manipulable form into an executable form. *See also* FIG. 1 (illustrating components and information flows of any exemplary system suitable for implementation of the method).

The recitation of claim 10 includes first defining the actuary-manipulable representation of a rating model. As described in the specification,

A calculation base 110 is defined in a user-manipulable form. Typically, calculation base 110 is encoded in a source form that is itself readable and manipulable by an actuary, underwriter, product manager or other business user, although in some realizations a user interface (e.g., graphical user interface 111) allows such an actuary, underwriter, product manager or other business user to easily define and manipulate a calculation base irrespective of the underlying encoding thereof. Forms suitable for manipulation by business users, e.g., actuaries, underwriters, product managers, etc., are hereinafter referred to as actuary-manipulable forms without loss of generality. In some realizations in accordance with the present invention, calculation base 110 is represented in accordance with an eXtensible Markup Language (XML) encoding such as described in greater detail below. Whatever the particular encoding form, calculation base 110 defines variables, adjustments (e.g., in the form of factor tables) and calculation sequences appropriate to a given rating model.

As described in the specification (and detailed further below) such an actuary-manipulable representation is both manipulated/updated and advantageously transformed (e.g., compiled) into an executable form. To support these twin goals of manipulation by “mere” actuaries and suitability for automated transformation, Applicants have defined particular structured forms for the functionally descriptive information of the actuary-manipulable representation. *See generally*, Applicant’s Specification, p. 7, line 3 – p. 20, line 25 for a description of various possible elements of a calculation base that results from the defining step. For concreteness, an XML representation form is contemplated and described.

In Claim 10, Applicants specifically recite a subset of those possible elements of the actuary-manipulable representation, namely variables, factor tables and calculation sequences of the rating model. Variables define the information used as values in rate calculations and Applicants detail exemplary variable definitions (including XML instantiations and relevant Data Type Definitions (DTDs) for *discrete variables*, *continuous variables* and *date variables*) in the Specification (p. 7, line 28 – p. 9, line 27). Factor tables are multi-dimensional lookup tables containing numerical adjustments. *See* Specification p. 9, line 28 – p. 13, line 15 (detailing XML instantiations and relevant DTDs for factor tables in which individual axes thereof are defined in terms of discrete, continuous or date variables, or interpolations thereof). Calculation sequences provide a flexible way to calculate rates based on specific information and statistical

probabilities. *See* Specification p. 13, line 16 – p. 20, line 25 (detailing syntactic elements of exemplary *basic, conditional, methodology call, loop, aggregation* and *warning* steps for calculation sequences). In Claim 10, Applicants specifically recite that the factor tables have one or more axes bound to respective ones of the recited variables and that the calculation sequences are defined in terms of steps operative on values of the variables and cells of the factor tables. The identified portions of the Specification provide concrete examples.

Claim 10 goes on to recite transforming the actuary-manipulable representation to the executable representation. As before, Applicant's Specification (*see* p. 4, line 25 – p. 7, line 2) provides an overview of an exemplary computer implemented method for transforming a calculation base defined in actuary-manipulable form into an executable form. *See also* FIG. 1 (illustrating components and information flows of any exemplary system suitable for transformation of calculation base **110** into compiled rating model **130**). Further supporting disclosure is provided in the Specification at p. 20, line 26 – p. 26, line 25 and with reference to FIGS. 5 and 6. In particular, Applicants describe an exemplary 2-step compilation process in which intermediate source files are generated for variables, factor tables and methodologies, and in which executable code is generated from the intermediate source.

In Claim 10, Applicants specifically recite two attributes of the resulting executable representation, namely that it include (i) a runtime lookup facility for identification of runtime identifiers in the executable representation corresponding to ones of the variables and (ii) a calculate method executable to generate a quote based on inputs supplied via a predefined input interface. Attributes and usage of exemplary unique identifiers (UNIDs) for runtime lookup of variables (as well as other runtime elements) are described in the specification at p. 26, line 26 – p. 28, line 24. Similarly, attributes and usage of an exemplary calculate method and exemplary input sourcing are described in the specification at p. 28, line 25 – p. 31, line 13.

#### Independent Claim 19

Independent **claim 19** is directed to a computer program product. In particular, claim 19 recites a *compiled* rating model (*see e.g.*, compiled rating model **130**) corresponding to a calculation base (*see e.g.*, calculation base **110**) including variables, factor tables and calculation sequences thereof, wherein one or more axes of the factor tables are bound to respective ones of

the variables, and wherein the calculation sequences are defined in terms of steps operative on values of the variables and cells of the factor tables.

Variables define the information used as values in rate calculations and Applicants detail (see Specification, p. 7, line 28 – p. 9, line 27) exemplary variable definitions of the calculation base (including XML instantiations and relevant Data Type Definitions (DTDs) for *discrete variables*, *continuous variables* and *date variables*) from which the recited rating model is compiled. Factor tables and calculation sequences are also detailed in the Specification. See e.g., p. 9, line 28 – p. 13, line 15 (detailing XML instantiations and relevant DTDs for factor tables in which individual axes thereof are defined in terms of discrete, continuous or date variables, or interpolations thereof and from which the recited rating model is compiled); see also, p. 13, line 16 – p. 20, line 25 (detailing syntactic elements of exemplary *basic*, *conditional*, *methodology call*, *loop*, *aggregation* and *warning* steps for calculation sequences from which recited rating model is compiled).

Applicants also detail generation of Java™ intermediate files compiled from the corresponding variable definition, factor table and calculation sequence elements of the calculation base. See Specification at p. 20, line 26 – p. 26, line 25 and FIGS. 1, 5 and 6. The Java™ files include elements recited in claim 19, namely software structures that bind one or more axes of the factor tables to respective ones of the variables, and that define calculation sequences in terms of steps operative on values of the variables and cells of the factor tables. For example, Applicants illustrate exemplary instances of Java™ intermediate files emitted by compiler 141 (see Fig. 1) including runtime lookup methods and data structures (defined at step 502, Fig. 5) to provide runtime identifiers corresponding to runtime instances of the variables. Exemplary Java code is described and illustrated in the Specification at p. 21, line 6 – p. 22, line 39 and in “Appendix A” (pp. 32-36). Applicants also describe and illustrate (see p. 22, line 40 – p. 23, line 34) exemplary instances of Java™ intermediate files emitted by compiler 141 including runtime lookup methods and data structures defined (see step 502, Fig. 5) and emitted (see step 503, Fig. 5) for factor tables. Finally, Applicants describe (see p. 23, line 35 – p. 26, line 25, see also Fig. 6) operation of compiler 141 to emit code (e.g., in the form of Java™ intermediate source files) corresponding to the aforementioned calculation sequences.

Claim 19 further recites a lookup facility to identify runtime identifiers corresponding to runtime instances of the variables. An exemplary lookup facility is implemented in the Java™ intermediate files (discussed above and illustrated in the exemplary Java™ code implementing various `getUNIDforVariable` style methods) and its runtime operation (*see* lookup 133, Fig. 1) after compilation of the Java™ intermediate files to executable form is described in the Specification, p. 26, line 26 – p. 31, line 13. In particular, use of various `getUNIDforVariable` style methods of the resulting compiled rating model 130 is described at least in the subsections entitled “UNIDs for Continuous and Date Variables,” UNIDs for Discrete Variables” and in the example of “A Sample Quotation.”

Claim 19 goes on to recite an input interface including access methods for setting values (*see* input 134, Fig. 1) for the runtime instances of the variables using the corresponding runtime identifiers and a calculate method of compiled rating model (*see* compiled rating model 130, Fig. 1) executable (*see* invoke 135, Fig. 1) to generate a result (*see* output 136, Fig. 1) of the calculation sequences based on the set values. Corresponding access methods (e.g., `setValueforVariable` style methods) are described at least in the subsection entitled “Calculation Inputs and Outputs” and in the example of “A Sample Quotation.” Finally, Applicants describe definition and use of a calculate method (e.g., `base.Calculate("methodology name", input, output, prefs)`) of the compiled rating model to initiate a computation against an input object in accordance with calculation sequences compiled into the named methodology to generate a result output object. *See* Specification, p. 28, line 25 – p. 31, line 13.

#### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

1. Claims 10-15, 3-9 and 19-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0046064 naming Maury et al. as inventors (hereafter “*Maury*”).
2. The rejections under 35 U.S.C. §103(a) must necessarily rely upon the filing date of U.S. Provisional Application No. 60/206,007 as an effective §102(e) date for the Maury reference. Therefore, more correctly, claims 10-15, 3-9 and 19-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over specific disclosure of *Maury* that (allegedly) has been carried over from U.S. Provisional Application No. 60/206,007.

## **ARGUMENT**

Claims 3–15 and 19–22 are finally rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent Publication No. 2002/0046064, naming Maury et al. (hereinafter “*Maury*”). Those rejections are simply not sustainable on appeal. Indeed, the Office’s final rejection should be reversed for at least the following reasons:

1. **ERROR 1:** *Maury* does not disclose that which the Office attributes to it. Accordingly, no *prima facie* case of obviousness exists.
2. **ERROR 2:** Even if *Maury* did disclose that which the Office attributes to it, *Maury* is *not prior* to Applicant’s filing date. Because elements of the *Maury* disclosure relied upon by the Office in its rejection of claims do not appear in the provisional application to which *Maury* claims priority, *Maury*’s effective date as a reference against Applicants claims is no earlier than May 18, 2001 (over 4 months after Applicant’s filing date). Because *Maury* is not “prior,” no *prima facie* case of obviousness exists.

### Obviousness-35 U.S.C. § 103

The legal standard for obviousness is defined in the Patent Statute, 35 U.S.C. § 103, which specifies, in addition to novelty requirements under § 102, further conditions for patentability relating to non-obvious subject matter. Those further conditions include the following:

[a] patent may not be obtained though the invention is not identically disclosed or described [by prior art under 35 U.S.C. § 102] if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

35 U.S.C. § 103(a) (2004).

As a general proposition, obviousness is a legal determination based on underlying factual inquiries. See Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopedics, Inc., 976 F.2d 1559, 1572-73, 24 U.S.P.Q.2d (BNA) 1321, 1332-1333 (Fed. Cir. 1992). Graham v. John Deere Co., defines the factual inquiries utilized to evaluate the prior art. Specifically, the prior art is evaluated in terms of: (1) its scope and content; (2) the differences between the prior art and the claimed invention; (3) the level of ordinary skill in the art at the time the application

was filed; and (4) objective, or secondary, evidence of nonobviousness such as commercial success, failure of others, long-felt need and unexpected results, which must be considered in reaching a conclusion of obviousness. Graham, 383 U.S. 1, 17, 148 U.S.P.Q. (BNA) 459, 460 (1966); Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1566-67, 1 U.S.P.Q.2d (BNA) 1593, 1595-96 (Fed. Cir. 1987); Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., 976 F.2d at 1572-73, 24 U.S.P.Q.2d at 1333.

“To reject claims in an application under section 103, an examiner must show an un rebutted *prima facie* case of obviousness.” In re Rouffet, 149 F.3d 1350, 1355, 47 U.S.P.Q.2d (BNA) 1453, 1455 (Fed. Cir. 1998). It must be shown that all limitations of the claims are taught or suggested by the references as combined or modified to establish this *prima facie* case of obviousness. *See In re Royka*, 490 F.2d 981, 985, 180 U.S.P.Q. (BNA) 580, 583 (CCPA 1974). The combination or modification of references for an obviousness rejection must be supported with “a showing of a suggestion or motivation to modify the teachings.” In re Kotzab, 217 F.3d 1365, 1370, 55 U.S.P.Q.2d (BNA) 1313, 1317 (Fed. Cir. 2000). “The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved.” In re Kotzab, 217 F.3d at 1370, 55 U.S.P.Q.2d at 1317, *citing In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d (BNA) 1614, 1617 (Fed. Cir. 1999). Alternatively, a “teaching, suggestion or motivation to combine relevant prior art teachings may be implicit from the prior art as a whole, rather than expressly stated in the references.” In re Kahn, 441 F.3d 977, 987-88, 78 U.S.P.Q.2d (BNA) 1329, 1336 (Fed. Cir. 2006), *quoting In re Kotzab*, 217 F.3d at 1370, 55 U.S.P.Q.2d at 1317. However, “[w]hether the [Office] relies on an express or an implicit showing, it must provide particular findings related thereto.” In re Kotzab, 217 F.3d at 1370, 55 U.S.P.Q.2d at 1317. “Broad conclusory statements standing alone are not ‘evidence.’” *Id.*; *see also In re Kahn*, 441 F.3d at 988, 78 U.S.P.Q.2d at 1336 (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)

Rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references is “the best defense against the subtle but powerful attraction of a



hindsight-based obviousness analysis.” *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d (BNA) 1430, 1433 (Fed. Cir. 2002), *quoting In re Dembiczak*, 175 F.3d at 999, 50 U.S.P.Q.2d at 1617.

*Maury Does Not Disclose that which Examiner Attributes to Maury*

*Maury* discloses a system and method for furnishing an on-line quote for an insurance product. Although Applicant’s claims recite methods and computer program products that may be useful in a practical implementation of an on-line insurance rate quoting system, *Maury* does not disclose that which Applicants actually claim and, with all due respect, mere similarity of technical field does not an obviousness rejection make.

Indeed, obviousness analysis begins with a key legal question—what is the invention claimed? In this regard, the claimed invention must be evaluated as a whole. 35 U.S.C. § 103(a); *see also Panduit Corp.*, 810 F.2d at 1567, 1 U.S.P.Q.2d at 1597. Fundamentally, all claim limitations must be considered in the obviousness analysis. Indeed, it is clear error to ignore limitations clearly set forth in the claims. *Panduit Corp.*, 810 F.2d at 1577, 1 U.S.P.Q.2d at 1604. In general, multiple prior art references may be combined to provide a basis for an obviousness determination; however, there must be some teaching or suggestion for the combination. *In re Rouffet*, 149 F.3d at 1355, 47 U.S.P.Q.2d at 1456. Finally, a prior art reference must be considered in its entirety, *i.e.*, as a *whole*, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 U.S.P.Q. (BNA) 303, 311 (Fed. Cir. 1983) *cert. denied*, 469 U.S. 851 (1984). Indeed, it is impermissible within the framework of § 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 796 F.2d 443, 448, 230 U.S.P.Q. (BNA) 416, 419 (Fed. Cir. 1986) *cert. denied*, 484 U.S. 823 (1987); *see also In re Wright*, 866 F.2d 422, 426, 9 U.S.P.Q.2d (BNA) 1649, 1652 (Fed. Cir. 1989) (reversing the Board based on conclusion that statements from reference were taken “wholly out of context and giv[en] meanings that they would not have had to one skilled in the art having no knowledge of Appellant’s invention”).

Claim 10-Rejection not Supported by Actual Content of the Relied upon Reference

**Claim 10** recites a method of preparing an executable representation of a rating model including specific steps beginning with the definition of an “actuary manipulable representation of a rating model” and continuing with a transformation of the actuary manipulable representation into an executable representation. As a preliminary matter, *Maury* does not teach any transformation from actuary manipulable form to executable form, let alone the representations and transformations claimed. That, by itself, is determinative and the rejections should be withdrawn for at least this reason.

In the final action,<sup>1</sup> the Office’s maintains its rejection of claim 10 asserting that:

1. Paragraphs [0030]-[0033] of *Maury* disclose “defining an actuary-manipulable representation of a rating model, the actuary-manipulable representation including variables, factor tables and calculation sequences of the rating model, [] and the calculation sequences defined in terms of steps operative on values of the variables and cells of the factor tables.”
2. Paragraphs [0034], [0037]-[0039] of *Maury* disclose “transforming the actuary-manipulable representation to the executable representation, the executable representation including a runtime lookup facility for identification of runtime identifiers in the executable representation corresponding to ones of the variables and a calculate method executable to generate a quote based on inputs supplied via a predefined input interface.”

See Office action, dated June 29, 2005, pp. 3-4 (omission of Applicant’s claim language in original). Applicant respectfully disagrees and direct this Honorable Board to the relied upon sections of *Maury*. For reference and with emphasis added, Applicant duplicates the language of claim 10, as follows:

A method of preparing an executable representation of a rating model, the method comprising:  
defining an actuary-manipulable representation of a rating model,  
the actuary-manipulable representation including variables,  
factor tables and calculation sequences of the rating  
model, the factor tables having one or more axes bound to  
respective ones of the variables and the calculation  
sequences defined in terms of steps operative on values of  
the variables and cells of the factor tables;

<sup>1</sup> In the final Office action dated March 2, 2006, the Office incorporates rejections of the preceding non-final Office action, dated June 29, 2005, and maintains rejections “for the same reasons given in the previous Office Action.” Final action, page 3.

**transforming** the actuary-manipulable representation to the executable representation, the **executable representation including a runtime lookup facility for identification of runtime identifiers in the executable representation corresponding to ones of the variables and a calculate method executable to generate a quote based on inputs supplied via a predefined input interface.**

The relied upon sections (together with the remainder of *Maury*) disclose a networked information system for furnishing on-line quotes for insurance products. However, with all due respect, such disclosure is beside the point. Rejections must be based on the express or inherent disclosure of the subject matter actually claimed, and relative to Applicant's claims, *Maury* simply does not disclose *transformation* of an actuary manipulable representation of a rating model into an executable representation, let alone a transformation of a rating model represented in the *actuary manipulable form claimed* to the *executable form claimed*. Such a transformation is neither disclosed nor inherent in that which is disclosed. Furthermore, such a transformation is not suggested by anything disclosed. No *prima facie* case exists and, for this reason alone, the present rejection must be withdrawn.

Leaving aside the above summarized inadequacies of *Maury* as § 103 reference, Applicant wishes to point out that the Office rationalizes its rejection despite an acknowledged absence in *Maury* of limitations related to factor tables of the actuary-manipulable representation as claimed.<sup>2</sup> In the final rejection, the Office apparently bases its rejection on features “well known in the art” and on disclosure (in *Maury* at [0035]) of use of a DTP communication protocol/interface for transporting data, presumably in the course quoting against rates of multiple insurance companies. See Office action, dated June 29, 2005, p. 4.

Even cursory review by the Board will confirm that the relied upon disclosure has nothing at all to do with the claimed limitation of an actuary-manipulable representation of a rating model including variables, factor tables and calculation sequences ..., let alone a representation in which “**factor tables hav[e] one or more axes bound to respective ones of the variables and the calculation sequences [are]**

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<sup>2</sup> Applicants note that Examiner's truncation of the actual claim limitation in the final rejection is a bit misleading. The actual limitation reads: “factor tables having one or more axes bound to respective ones of the variables and the calculation sequences defined in

defined in terms of steps operative on values of the variables and cells of the factor tables.” If the claim limitation is truly “well known in the art” as it pertains to an actuary manipulable representation of a rating model suitable for transformation (as claimed) into an executable form, Applicants renew their request that the Office provide some *evidence* to support that assertion. Because the actuary manipulable representation of a rating model recited in claim 10 is not disclosed in *Maury* and no evidence exists that it is “well known in the art,” there is no *prima facie* of obviousness and the rejection should be withdrawn for this reason as well.

Finally, the Office appears to rely (in part) on the background of Applicant’s specification. Such reliance is misplaced. While insurance companies will typically have a rating model for each line of insurance they offer, nothing in Applicant’s disclosure or any art of record supports the Office’s apparent conclusion that an *actuary-manipulable representation* of a rating model, including variables, factor tables and calculation sequences functionally interrelated as claimed, appears in the prior art *or is transformed* to executable form as claimed.

#### Claim 11-No Prima Facie Case

**Claim 11** adds specific detail regarding the transformations performed for particular calculation sequences. No similar disclosure appears in *Maury* and the “corresponding disclosure” identified by the Office is pure fiction. Applicant’s respectfully direct the Board to paragraphs [0028], [0034] and [0041] relied upon by the examiner in the final rejection. Even a cursory review will confirm that *Maury* does not disclose or suggest that, for a particular calculation sequence of the actuary-manipulable representation, the “transforming [from actuary-manipulable representation to the executable representation] includes:

- decomposing the particular calculation sequence into layers, each layer including those steps thereof that are at a same flow control level;
- for each layer, traversing the steps thereof to identify those of the variables used by the layer;
- for each layer, traversing the calculation sequence to identify the steps of the layer targeted by other steps of the calculation sequence and emitting code allocating storage for results of the targeted steps; and

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terms of steps operative on values of the variables and cells of the factor tables.

for each layer, emitting code for variable test and index calculations of the layer.

No *prima facie* case exists and the rejection of claim 11 must be withdrawn.

*Claim 13-No Prima Facie Case*

**Claim 13** adds a specific two-step compilation process found nowhere in *Maury*. No similar disclosure appears in *Maury* and the “corresponding disclosure” identified by the Office is again inapplicable. Applicant’s respectfully direct the Board to paragraphs [0024] and [0031] relied upon by the Office in the final rejection. Even a cursory review will confirm that *Maury* does not disclose or suggest that the “transforming [from actuary-manipulable representation to the executable representation] includes:

... a two-step compilation,  
 a first step thereof producing a platform independent source form  
     from the actuary-manipulable representation, and  
 a second step thereof producing the executable representation  
     from the platform independent source form.

Although the Office’s reasoning is not entirely clear, it would appear that Office believes that use of Java™ technology in an on-line auto rate quoting system, renders claim 13 obvious. With all due respect, use of Cold Fusion, Java™, C, C++, HTML and JavaScript in the code of a networked system is a far cry from the specific two-step compilation process recited in Applicant’s claim. No *prima facie* case exists and the rejection of claim 13 must be withdrawn.

*Claim 19-No Prima Facie Case*

Independent **claim 19** has been rejected by the Office apparently for the same reasons as claim 10. *See* Office action, dated June 29, 2005, pp. 9-10. With all due respect, Applicant’s note that the Office fails to establish in the prior art:

a **compiled rating model** corresponding to a calculation base  
     including variables, factor tables and calculation  
     sequences thereof, **wherein one or more axes of the factor**  
     **tables are bound to respective ones of the variables, and**  
     **wherein the calculation sequences are defined in terms of**  
     **steps operative on values of the variables and cells of the**  
     **factor tables;**

let alone the:

lookup facility to identify runtime identifiers corresponding to runtime instances of the variables;  
 input interface including access methods for setting values for the runtime instances of the variables using the corresponding runtime identifiers; and  
 calculate method of the compiled rating model executable to generate result of the calculation sequences based on the set values.

recited in claim 19. As before, it appears that the Office's position is that disclosure of an internet-based insurance quoting system inherently discloses the limitations claimed. However, Applicants claim language recites specific structural relationships between elements of a specific compiled rating model (such as the binding of variables to axes of factor tables and definition of calculation sequences based on values of the variables and cells of the factor tables), and includes recitation of specific facilities relating to *lookup of runtime identifiers* and access methods that allow values to be set for runtime instances of variables using such runtime identifiers.

No disclosure or suggestion of these limitations appears in the art of record and, as such, the Office has failed to make out a *prima facie* case of obviousness. Claims 19-23 are allowable for at least these reasons.

*Maury is NOT Prior*

Notwithstanding the substantive defects of the obviousness rejections, Applicant respectfully points out that the applied reference is simply *not prior* to Applicant's filing date. *Maury* constitutes a reference, if at all, under 35 U.S.C. § 102(e)(2) and US Application No. 09/860,679, which published as the *Maury* reference, was filed May 18, 2001 (over 4 months after Applicant's filing date). Although *Maury* claims priority to US Provisional Application No. 60/206,007, filed May 19, 2000, the disclosure of the provisional application and that of the relied upon *Maury* publication *differ greatly*. Those differences are apparent on the face of the record and are material to *Maury's* effective date as a reference against Applicant's claims.

While it is not clear whether the Examiner has *simply presumed* that recitation of a claim of priority under 35 U.S.C. § 119(e) magically affords the Office with a new 102(e) date, it is clear that specific elements of Applicant's claims are nowhere to be found in Provisional

Application No. 60/206,007. To complete the record for appellate review, Applicant obtained a copy of Provisional Application No. 60/206,007 and submitted same in an IDS filed September 23, 2005.

Applicants wish to emphasize that neither recitation of a claim of priority, nor mere subject matter relationship between the relied upon disclosure (of *Maury*) and the content of provisional application no. 60/206,007, is by itself sufficient to afford *Maury* with *an earlier effective date as a prior art reference*. Indeed, to support the Office's theory of obviousness, specific disclosure sufficient to reject Applicant's claims must be found in **both** (i) the *Maury* publication **and** (ii) the disclosure content of Provisional Application No. 60/206,007.

*Precedent Governing Effective Date of a 102(e) Reference*

Legal precedent governing the effective date of a patent reference that dates back to the Supreme Court's decision in Milburn Co. v. Davis-Bournonville Co., 270 U.S. 390 (1926), which established the proposition, subsequently codified in 35 U.S.C. § 102(e), that material disclosed but not claimed in a U.S. Patent may be used as a reference to anticipate a later invention as of the date the reference application was filed, rather than the date on which patent finally issued. Justice Holmes for the Supreme Court reasoned that delays in the Patent Office ought not to cut down the effect of what has been done. Milburn, 270 U.S. at 401. In Hazeltine Research Inc. v. Brenner, Com'r, 382 U.S. 252, 256, 147 U.S.P.Q. (BNA) 429, 431 (1965), the Court held that Milburn and § 102(e) may be applied to determine what is "prior art" under § 103.

Over the years, this Board's court(s) of review have sought to apply *Milburn's* underlying rationale, i.e., that delays in the Patent Office in prosecution should not effect the timing of when a patent becomes prior art, to increasingly complex factual postures under § 102(e). Of particular note (for the present inquiry) is set of decisions by the Court of Customs and Patent Appeals dealing with the § 102(e) effective date of a patent that issues from a chain of continuing applications. The controlling precedent is detailed in In re Wertheim and Mishkin, 646 F.2d 527, 209 U.S.P.Q. (BNA) 554 (CCPA 1981), in which Judge Rich reviewed and synthesized disclosure content-based decisions in In re Lund, 376 F.2d 982, 153 U.S.P.Q. (BNA) 625 (CCPA 1967) and In re Klesper, 397 F.2d 882, 158 U.S.P.Q. (BNA) 256 (CCPA 1968) and

in which the court articulated *additional* requirements relating to viability of a priority claim for subject matter actually claimed in the reference patent.

Since the controlling precedent is reviewed exhaustively in Wertheim, Applicant directs the Board thereto. However, the relevant analysis can be summarized as follows:

1. It is the *reference patent* that constitutes the reference under § 102(e), not the *prior application* (e.g., an abandoned application, unpublished application, or provisional application) to which priority is claimed. See Wertheim, 646 F.2d at 535, 209 U.S.P.Q. at 562 (“[A]n abandoned application by itself can never be a reference.”).
2. To support an earlier effective date as a § 102(e) reference, the relied upon disclosure must appear in both the *reference patent* and the *prior application* to which priority is claimed. See Wertheim, 646 F.2d at 534, 209 U.S.P.Q. at 564 (“Thus, the determinative question [is] whether or not the subject matter of the appealed claims was disclosed bot[h] in the abandoned application and in the patent.”). Subject matter appearing in the prior application but not “carried over” to the reference patent does not give rise to an effective reference date under § 102(e). See In re Lund, 376 F.2d at 991, 153 U.S.P.Q. at 633; see also Wertheim, 646 F.2d at 535, 209 U.S.P.Q. at 561 (interpreting In re Lund). Similarly, subject matter appearing in the *reference patent* but not in the prior application would not give rise to an earlier effective reference date under § 102(e). See In re Klesper, 397 F.2d at 886, 158 U.S.P.Q. at 258 (articulating the requirement that the relied upon disclosure appear in both the reference patent and the prior application); see also Wertheim, 646 F.2d at 535, 209 U.S.P.Q. at 561 (synthesizing In re Lund and In re Klesper).
3. Finally, in addition to the disclosure-based requirements of articulated above, the *invention claimed* in the reference patent must “find[] *supporting disclosure in compliance with § 112*, as required by § 120, ... so as to entitle that invention ... to the filing date of [the prior application].” Wertheim, 646 F.2d at 537, 209 U.S.P.Q. at 564. “Without such support, the invention, and its accompanying disclosure cannot be regarded as prior art as of [the] filing date [of the prior application].” *Id.* Indeed, the Court stated:

[I]f ... the PTO wishes to utilize against an applicant a part of [the] patent disclosure found in an application filed earlier than the date of the application which became the patent, it must demonstrate that the earlier-filed application contains §§ 120/112 support for the invention claimed in the reference patent. For if a patent could not theoretically have issued the day the application was filed, it is not entitled to be used against another as “secret prior art,” the rationale of *Milburn* being inapplicable ....



Wertheim, 646 F.2d at 537, 209 U.S.P.Q. at 564.

Based on the forgoing and the analysis that follows, it is clear that the Office has not established an un rebutted *prima facie* case of obviousness and that the Office's theory of obviousness is not sustainable on appeal.

Note on Variations not yet Addressed by the Courts: Applicants acknowledge that, to date, no court of review appears to have addressed two minor variations on the basic propositions addressed in the Supreme Court and CCPA precedent. Those variations involve (i) chaining of applications based on a domestic claim of priority under § 119(e) to a provisional application rather than under § 120 as a continuation or continuation-in-part and (ii) *publication* or *deemed publication* references under recently enacted 35 U.S.C. § 102(e)(2) as opposed to *patent* references. Nonetheless, Applicants believe that current precedent establishes at least the outer bounds<sup>3</sup> of any proper effective § 102(e) date analysis.

In particular, a provisional application, like the § 120 parent of a continuing application, may disclose *more* or *less* than the reference patent (or publication) that claims its priority. As a result, the court's reasoning in In re Wertheim, In re Lund and In re Klesper (requiring that relied upon disclosure appear in both the reference and the earlier filing) remains relevant. Similarly, mere recitation a domestic claim for priority under § 119(e), like that under § 120, *may* or *may not*, be commensurate with adequacy of § 112 support for the invention claimed in the reference patent (or publication). Accordingly, the courts reasoning in In re Wertheim remains relevant. Finally, although it is unclear whether the court will eventually decide that the underlying rationales of Milburn and Hazeltine remain compelling when applied to publications (rather than patents) and with respect to provisional applications which cannot themselves issue as patents, we assume both for the sake of argument and this Honorable Board need not reach such issues.

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<sup>3</sup> It is unclear whether the Court will eventually decide that the underlying rationales of Milburn and Hazeltine remain compelling when applied to publications (rather than patents) and with respect to provisional applications which cannot themselves issue as patents. *See generally*, Andrew J. Patch, PROVISIONAL APPLICATIONS AND 35 USC 102(E) IN VIEW OF MILBURN, HILMER AND WERTHEIM, 77 JPTOS 339 (arguing use of a provisional application filing date as 102(e) date for non-provisional application which claims its priority inconsistent with Supreme Court and CCPA precedent).

Specific Legal Error

Applicants have advised the Office of the inadequacy of U.S. Provisional Application No. 60/206,007 to support the Office's theory of obviousness, which necessarily involves § 102(e). The Office has responded (*see* Advisory Action) with generalities regarding alleged correspondence between relied upon passages of *Maury* and flow charts of the provisional application. Specifically, the Office alleges that Figure 6; Attachment A, pages 8-14; Attachment B, pages 6-7 and Attachments F and G of Provisional Application No. 60/206,007 support an earlier effective date.

With all due respect, the alleged correspondence has nothing at all to do with Applicant's claimed subject matter. No transformation from an actuary manipulable representation to an executable representation of a rating model appears in the sections identified by the Office or elsewhere in U.S. Provisional Application No. 60/206,007. For purposes of the present appeal, it is simply not relevant whether some disclosure of the *Maury* reference appears in the provisional application. What is relevant is whether specific disclosure sufficient to render Applicant's claims obvious appears in the provisional application. The answer to that question is an emphatic NO!

Applicants respectfully direct the Board to the provisional application, and in particular to those portions of the provisional application which the Office alleges support the present obviousness rejections. Even a cursory review will confirm that no sustainable legal basis exists for affording *Maury* reference an earlier effective reference date *with respect to the subject matter recited in Applicant's claims*.

Accordingly, since the *Maury* reference cannot be accorded a §102(e) reference date of U.S. Provisional Application No. 60/206,007 for the subject matter recited in Applicant's claims, the *Maury* reference is not prior and no *prima facie* case of obviousness exists for any of the claims.

**CONCLUSION**

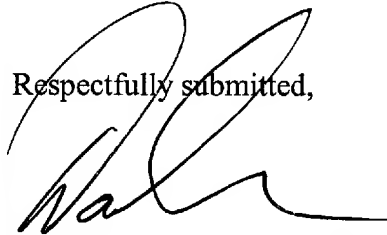
The present rejections should be withdrawn for either or both of the reasons given above, *Maury* simply does not disclose that which the Office attributes to it. Accordingly, no *prima*

*facie* case of obviousness exists. In addition, because *Maury* is not “prior,” no *prima facie* case of obviousness exists for that reason as well. Accordingly, Applicants respectfully request that this honorable Board reverse the rejections of claims 3-15 and 19-21 and 24 and to direct the claims of the present application to be issued forthwith.

<b><u>CERTIFICATE OF MAILING OR TRANSMISSION</u></b>	
I hereby certify that, on the date shown below, this correspondence is being	
<input type="checkbox"/>	deposited with the US Postal Service with sufficient postage as first class mail and addressed as shown above.
<input type="checkbox"/>	facsimile transmitted to the US Patent and Trademark Office.
_____	_____ Date

<b>EXPRESS MAIL LABEL:</b> _____
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Respectfully submitted,



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**CLAIMS APPENDIX**

3. The method of claim 24,  
wherein the rating model defining is performed in accordance with a predefined document type definition.
4. The method of claim 24,  
wherein the transforming to the executable representation includes compilation of the actuary-manipulable representation to a platform independent executable form.
5. The method of claim 24, wherein the executable representation includes:  
predefined input and output interfaces;  
a runtime lookup facility for identification of runtime identifiers in the executable representation corresponding to ones of the variables; and  
a calculate method of the compiled rating model executable to generate the quote based on inputs supplied via the input interface.
6. The method of claim 5, further comprising:  
employing the runtime lookup facility to identify particular runtime identifiers corresponding to particular variables;  
setting values for the particular variables using the corresponding runtime identifiers and the predefined input interface; and  
retrieving the quote via the predefined output interface.
7. The method of claim 24,  
wherein the actuary-manipulable representation includes markup language encoded metadata.
8. The method of claim 24,  
wherein the actuary-manipulable representation is XML encoded.

9. The method of claim 24,

wherein the actuarial-manipulable representation includes a graphical user interface presentation of the variables, factor tables and computational flows of the rating model based on markup language encoded metadata.

10. A method of preparing an executable representation of a rating model, the method comprising:

defining an actuarial-manipulable representation of a rating model, the actuarial-manipulable representation including variables, factor tables and calculation sequences of the rating model, the factor tables having one or more axes bound to respective ones of the variables and the calculation sequences defined in terms of steps operative on values of the variables and cells of the factor tables;

transforming the actuarial-manipulable representation to the executable representation, the executable representation including a runtime lookup facility for identification of runtime identifiers in the executable representation corresponding to ones of the variables and a calculate method executable to generate a quote based on inputs supplied via a predefined input interface.

11. The method of claim 10, wherein, for a particular calculation sequence of the actuarial-manipulable representation, the transforming includes:

decomposing the particular calculation sequence into layers, each layer including those steps thereof that are at a same flow control level;

for each layer, traversing the steps thereof to identify those of the variables used by the layer;

for each layer, traversing the calculation sequence to identify the steps of the layer targeted by other steps of the calculation sequence and emitting code allocating storage for results of the targeted steps; and

for each layer, emitting code for variable test and index calculations of the layer.

12. The method of claim 10, wherein the transforming includes:

emitting, for a particular calculation sequence, both logged and non-logged versions of the executable representation.

13. The method of claim 10,  
wherein the transforming includes a two-step compilation,  
a first step thereof producing a platform independent source form from the actuary-manipulable representation, and  
a second step thereof producing the executable representation from the platform independent source form.
14. The method of claim 10,  
wherein the runtime lookup facility of the executable representation includes a predefined interface for obtaining the runtime identifiers corresponding to respective ones of the variables and factor tables of the rating model; and  
wherein the runtime identifiers allow client code to set and access runtime storage corresponding to respective ones of the variables and factor tables.
15. The method of claim 14,  
wherein the client code is part of a networked information service; and  
wherein the executable representation of the rating model is employed to prepare a quote for presentation by the networked information service.
19. A computer program product comprising:  
a compiled rating model corresponding to a calculation base including variables, factor tables and calculation sequences thereof, wherein one or more axes of the factor tables are bound to respective ones of the variables, and wherein the calculation sequences are defined in terms of steps operative on values of the variables and cells of the factor tables;  
a lookup facility to identify runtime identifiers corresponding to runtime instances of the variables;  
an input interface including access methods for setting values for the runtime instances of the variables using the corresponding runtime identifiers; and  
a calculate method of the compiled rating model executable to generate result of the calculation sequences based on the set values.

20. The computer program product of claim 19,  
wherein the runtime identifiers allow client code to employ the compiled rating model  
without knowledge of internals thereof.
21. The computer program product of claim 20,  
wherein the client code is a component of a networked information service; and  
wherein the networked information service sets values for the runtime instances of the  
variables and invokes the calculate method of the compiled rating model to  
generate a quote based thereon.
24. The method of claim 10, further comprising:  
executing the executable representation to calculate a quote for an insurance product.

**EVIDENCE APPENDIX**

There is no evidence submitted pursuant to 37 C.F.R. § 1.130, 1.131, or 1.132 or any other evidence entered by the examiner and relied upon by appellant in the appeal.



**RELATED APPEALS APPENDIX**

There are no decisions rendered by a court or the Board in any proceeding identified above in the Related Appeals and Interferences section.